STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: *10/559, 639*
Source: *1FWP*
Date Processed by STIC: *2/16/05*

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**
FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO **REDUCE** ERRORED SEQUENCE LISTINGS, **PLEASE** USE THE **CHECKER VERSION 4.2.2 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. **EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>** , **EFS Submission User Manual** - ePAVE)
2. **U.S. Postal Service:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. **Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):** U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/24/05

Raw Sequence Listing Error Summary

ERROR DETECTED   **SUGGESTED CORRECTION**   SERIAL NUMBER: _10/559, 639_

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1_____Wrapped Nucleics   The number/text at the end of each line "wrapped" down to the next line. This may occur if your file
       Wrapped Aminos   was retrieved in a word processor **after** creating it. Please adjust your right margin to .3; this will
                         prevent "wrapping."

2_____Invalid Line Length   The rules require that a line **not exceed** 72 characters in length. This includes white spaces.

3_____Misaligned Amino   The numbering under each 5th amino acid is misaligned. Do **not** use tab codes between numbers;
       Numbering   use **space characters**, instead.

4_____Non-ASCII   The submitted file was **not** saved in ASCII(DOS) text, as **required** by the Sequence Rules. **Please
                          ensure your subsequent submission is saved in ASCII text.**

5_____Variable Length   Sequence(s)_____contain n's or Xaa's representing more than one residue. **Per Sequence Rules,
                          each n or Xaa can only represent a single residue.** Please present the **maximum** number of each
                          residue having variable length and indicate in the <220>-<223> section that some may be missing.

6_____PatentIn 2.0   A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid
       "bug"   sequences(s) _____. Normally, PatentIn would automatically generate this section from the
                          previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to
                          the subsequent amino acid sequence. **This applies to the mandatory <220>-<223> sections for
                          Artificial or Unknown sequences.**

7_____Skipped Sequences   Sequence(s) _____ missing. If intentional, please insert the following lines for **each** skipped sequence:
       (OLD RULES)   (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
                          (i)   SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
                          (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
                          This sequence is intentionally skipped

                          Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to **include** the skipped sequences.

8_____Skipped Sequences   Sequence(s) _____ missing. If **intentional**, please insert the following lines for **each** skipped sequence.
       (NEW RULES)   <210> sequence id number
                          <400> sequence id number
                          000

9_____Use of n's or Xaa's   Use of n's and/or Xaa's have been detected in the Sequence Listing.
       (NEW RULES)   Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
                          In <220> to <223> section, please explain location of **n** or **Xaa**, and which residue **n** or **Xaa** represents.

10_____Invalid <213>   Per 1.823 of Sequence Rules, the only **valid** <213> responses are: Unknown, Artificial Sequence, or
        Response   scientific name (Genus/species). <220>-<223> section is **required** when <213> response is Unknown or
                          is Artificial Sequence

11_____Use of <220>   ~~Sequence(s)_____ missing the <220> "Feature" and associated numeric identifiers and responses.~~
                          Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or
                          "Unknown." Please explain source of genetic material in <220> to <223> section.
                          (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32)   (Sec. 1.823 of Sequence Rules)

12_____PatentIn 2.0   Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file,
        "bug"   resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence
                          listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13_____Misuse of n/Xaa   "n" can **only** represent a single <u>nucleotide</u>; "Xaa" can **only** represent a single <u>amino acid</u>

AMC – Biotechnology Systems Branch – 09/09/2003

IFWP

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/559,639

DATE: 12/16/2005
TIME: 15:46:54

Input Set : **D:\Sequence_Listings_16033US_ST25_txt.TXT**
Output Set: **N:\CRF4\12162005\J559639.raw**

```
    3 <110> APPLICANT: Ben-Yehuda, Dina
    4        Ashhab, Yaqoub
    5        Nachmias, Boaz
    7 <120> TITLE OF INVENTION: Livin-derived peptides, compositions and uses thereof
    9 <130> FILE REFERENCE: 16033/US/03
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/559,639
C--> 11 <141> CURRENT FILING DATE: 2005-12-02
   11 <150> PRIOR APPLICATION NUMBER: IL 156263
   12 <151> PRIOR FILING DATE: 2003-06-02
   14 <150> PRIOR APPLICATION NUMBER: PCT/IL2004/000461
   15 <151> PRIOR FILING DATE: 2004-05-31
   17 <160> NUMBER OF SEQ ID NOS: 11
   19 <170> SOFTWARE: PatentIn version 3.3
   21 <210> SEQ ID NO: 1
   22 <211> LENGTH: 246
   23 <212> TYPE: PRT
   24 <213> ORGANISM: Homo sapiens
   26 <400> SEQUENCE: 1
   28 Gly Gln Ile Leu Gly Gln Leu Arg Pro Leu Thr Glu Glu Glu Glu
   29 1               5                   10                  15
   32 Glu Gly Ala Gly Ala Thr Leu Ser Arg Gly Pro Ala Phe Pro Gly Met
   33             20                  25                  30
   36 Gly Ser Glu Glu Leu Arg Leu Ala Ser Phe Tyr Asp Trp Pro Leu Thr
   37          35                  40                  45
   40 Ala Glu Val Pro Pro Glu Leu Leu Ala Ala Ala Gly Phe Phe His Thr
   41       50                  55                  60
   44 Gly His Gln Asp Lys Val Arg Cys Phe Phe Cys Tyr Gly Gly Leu Gln
   45 65                  70                  75                  80
   48 Ser Trp Lys Arg Gly Asp Asp Pro Trp Thr Glu His Ala Lys Trp Phe
   49                  85                  90                  95
   52 Pro Ser Cys Gln Phe Leu Leu Arg Ser Lys Gly Arg Asp Phe Val His
   53             100                 105                 110
   56 Ser Val Gln Glu Thr His Ser Gln Leu Leu Gly Ser Trp Asp Pro Trp
   57          115                 120                 125
   60 Glu Glu Pro Glu Asp Ala Ala Pro Val Ala Pro Ser Val Pro Ala Ser
   61       130                 135                 140
   64 Gly Tyr Pro Glu Leu Pro Thr Pro Arg Arg Glu Val Gln Ser Glu Ser
   65 145                 150                 155                 160
   68 Ala Gln Glu Pro Gly Gly Val Ser Pro Ala Glu Ala Gln Arg Ala Trp
   69                 165                 170                 175
   72 Trp Val Leu Glu Pro Pro Gly Ala Arg Asp Val Glu Ala Gln Leu Arg
   73             180                 185                 190
   76 Arg Leu Gln Glu Glu Arg Thr Cys Lys Val Cys Leu Asp Arg Ala Val
```

Does Not Comply
Corrected Diskette Needed
(pg-5)

RAW SEQUENCE LISTING   DATE: 12/16/2005
PATENT APPLICATION: US/10/559,639   TIME: 15:46:54

Input Set : D:\Sequence_Listings_16033US_ST25_txt.TXT
Output Set: N:\CRF4\12162005\J559639.raw

```
77              195                200                205
80  Ser Ile Val Phe Val Pro Cys Gly His Leu Val Cys Ala Glu Cys Ala
81      210                215                220
84  Pro Gly Leu Gln Leu Cys Pro Ile Cys Arg Ala Pro Val Arg Ser Arg
85  225                230                235                240
88  Val Arg Thr Phe Leu Ser
89                  245
92  <210> SEQ ID NO: 2
93  <211> LENGTH: 228
94  <212> TYPE: PRT
95  <213> ORGANISM: Homo sapiens
97  <400> SEQUENCE: 2
99  Gly Gln Ile Leu Gly Gln Leu Arg Pro Leu Thr Glu Glu Glu Glu Glu
100 1               5                   10                  15
103 Glu Gly Ala Gly Ala Thr Leu Ser Arg Gly Pro Ala Phe Pro Gly Met
104             20                  25                  30
107 Gly Ser Glu Glu Leu Arg Leu Ala Ser Phe Tyr Asp Trp Pro Leu Thr
108             35                  40                  45
111 Ala Glu Val Pro Pro Glu Leu Leu Ala Ala Ala Gly Phe Phe His Thr
112     50                  55                  60
115 Gly His Gln Asp Lys Val Arg Cys Phe Phe Cys Tyr Gly Gly Leu Gln
116 65                  70                  75                  80
119 Ser Trp Lys Arg Gly Asp Asp Pro Trp Thr Glu His Ala Lys Trp Phe
120             85                  90                  95
123 Pro Ser Cys Gln Phe Leu Leu Arg Ser Lys Gly Arg Asp Phe Val His
124             100                 105                 110
127 Ser Val Gln Glu Thr His Ser Gln Leu Leu Gly Ser Trp Asp Pro Trp
128         115                 120                 125
131 Glu Glu Pro Glu Asp Ala Ala Pro Val Ala Pro Ser Val Pro Ala Ser
132     130                 135                 140
135 Gly Tyr Pro Glu Leu Pro Thr Pro Arg Arg Glu Val Gln Ser Glu Ser
136 145                 150                 155                 160
139 Ala Gln Glu Pro Gly Ala Arg Asp Val Glu Ala Gln Leu Arg Arg Leu
140             165                 170                 175
143 Gln Glu Glu Arg Thr Cys Lys Val Cys Leu Asp Arg Ala Val Ser Ile
144             180                 185                 190
147 Val Phe Val Pro Cys Gly His Leu Val Cys Ala Glu Cys Ala Pro Gly
148             195                 200                 205
151 Leu Gln Leu Cys Pro Ile Cys Arg Ala Pro Val Arg Ser Arg Val Arg
152     210                 215                 220
155 Thr Phe Leu Ser
156 225
159 <210> SEQ ID NO: 3
160 <211> LENGTH: 298
161 <212> TYPE: PRT
162 <213> ORGANISM: Homo sapiens
164 <400> SEQUENCE: 3
166 Met Gly Pro Lys Asp Ser Ala Lys Cys Leu His Arg Gly Pro Gln Pro
167 1               5                   10                  15
```

RAW SEQUENCE LISTING   DATE: 12/16/2005
PATENT APPLICATION: US/10/559,639   TIME: 15:46:54

Input Set : D:\Sequence_Listings_16033US_ST25_txt.TXT
Output Set: N:\CRF4\12162005\J559639.raw

```
170 Ser His Trp Ala Ala Gly Asp Gly Pro Thr Gln Glu Arg Cys Gly Pro
171         20              25              30
174 Arg Ser Leu Gly Ser Pro Val Leu Gly Leu Asp Thr Cys Arg Ala Trp
175         35              40              45
178 Asp His Val Asp Gly Gln Ile Leu Gly Gln Leu Arg Pro Leu Thr Glu
179     50              55              60
182 Glu Glu Glu Glu Glu Gly Ala Gly Ala Thr Leu Ser Arg Gly Pro Ala
183 65              70              75              80
186 Phe Pro Gly Met Gly Ser Glu Glu Leu Arg Leu Ala Ser Phe Tyr Asp
187             85              90              95
190 Trp Pro Leu Thr Ala Glu Val Pro Pro Glu Leu Leu Ala Ala Ala Gly
191         100             105             110
194 Phe Phe His Thr Gly His Gln Asp Lys Val Arg Cys Phe Phe Cys Tyr
195         115             120             125
198 Gly Gly Leu Gln Ser Trp Lys Arg Gly Asp Asp Pro Trp Thr Glu His
199     130             135             140
202 Ala Lys Trp Phe Pro Ser Cys Gln Phe Leu Leu Arg Ser Lys Gly Arg
203 145             150             155             160
206 Asp Phe Val His Ser Val Gln Glu Thr His Ser Gln Leu Leu Gly Ser
207             165             170             175
210 Trp Asp Pro Trp Glu Glu Pro Glu Asp Ala Ala Pro Val Ala Pro Ser
211         180             185             190
214 Val Pro Ala Ser Gly Tyr Pro Glu Leu Pro Thr Pro Arg Arg Glu Val
215         195             200             205
218 Gln Ser Glu Ser Ala Gln Glu Pro Gly Gly Val Ser Pro Ala Glu Ala
219     210             215             220
222 Gln Arg Ala Trp Trp Val Leu Glu Pro Pro Gly Ala Arg Asp Val Glu
223 225             230             235             240
226 Ala Gln Leu Arg Arg Leu Gln Glu Glu Arg Thr Cys Lys Val Cys Leu
227         245             250             255
230 Asp Arg Ala Val Ser Ile Val Phe Val Pro Cys Gly His Leu Val Cys
231         260             265             270
234 Ala Glu Cys Ala Pro Gly Leu Gln Leu Cys Pro Ile Cys Arg Ala Pro
235     275             280             285
238 Val Arg Ser Arg Val Arg Thr Phe Leu Ser
239     290             295
242 <210> SEQ ID NO: 4
243 <211> LENGTH: 280
244 <212> TYPE: PRT
245 <213> ORGANISM: Homo sapiens
247 <400> SEQUENCE: 4
249 Met Gly Pro Lys Asp Ser Ala Lys Cys Leu His Arg Gly Pro Gln Pro
250 1               5               10              15
253 Ser His Trp Ala Ala Gly Asp Gly Pro Thr Gln Glu Arg Cys Gly Pro
254         20              25              30
257 Arg Ser Leu Gly Ser Pro Val Leu Gly Leu Asp Thr Cys Arg Ala Trp
258         35              40              45
261 Asp His Val Asp Gly Gln Ile Leu Gly Gln Leu Arg Pro Leu Thr Glu
262     50              55              60
```

```
           RAW SEQUENCE LISTING                    DATE: 12/16/2005
           PATENT APPLICATION:  US/10/559,639      TIME: 15:46:54

           Input Set : D:\Sequence_Listings_16033US_ST25_txt.TXT
           Output Set: N:\CRF4\12162005\J559639.raw
```

```
265 Glu Glu Glu Glu Glu Gly Ala Gly Ala Thr Leu Ser Arg Gly Pro Ala
266 65                  70                  75                  80
269 Phe Pro Gly Met Gly Ser Glu Glu Leu Arg Leu Ala Ser Phe Tyr Asp
270                  85                  90                  95
273 Trp Pro Leu Thr Ala Glu Val Pro Pro Glu Leu Leu Ala Ala Ala Gly
274              100                 105                 110
277 Phe Phe His Thr Gly His Gln Asp Lys Val Arg Cys Phe Phe Cys Tyr
278          115                 120                 125
281 Gly Gly Leu Gln Ser Trp Lys Arg Gly Asp Asp Pro Trp Thr Glu His
282     130                 135                 140
285 Ala Lys Trp Phe Pro Ser Cys Gln Phe Leu Leu Arg Ser Lys Gly Arg
286 145                 150                 155                 160
289 Asp Phe Val His Ser Val Gln Glu Thr His Ser Gln Leu Leu Gly Ser
290              165                 170                 175
293 Trp Asp Pro Trp Glu Glu Pro Glu Asp Ala Ala Pro Val Ala Pro Ser
294          180                 185                 190
297 Val Pro Ala Ser Gly Tyr Pro Glu Leu Pro Thr Pro Arg Arg Glu Val
298     . 195                 200                 205
301 Gln Ser Glu Ser Ala Gln Glu Pro Gly Ala Arg Asp Val Glu Ala Gln
302     210                 215                 220
305 Leu Arg Arg Leu Gln Glu Glu Arg Thr Cys Lys Val Cys Leu Asp Arg
306 225                 230                 235                 240
309 Ala Val Ser Ile Val Phe Val Pro Cys Gly His Leu Val Cys Ala Glu
310              245                 250                 255
313 Cys Ala Pro Gly Leu Gln Leu Cys Pro Ile Cys Arg Ala Pro Val Arg
314          260                 265                 270
317 Ser Arg Val Arg Thr Phe Leu Ser
318          275                 280
321 <210> SEQ ID NO: 5
322 <211> LENGTH: 27
323 <212> TYPE: DNA
324 <213> ORGANISM: Artificial Sequence
326 <220> FEATURE:
327 <223> OTHER INFORMATION: Primer for site-directed mutagenesis
329 <400> SEQUENCE: 5
330 ggggaattct ggtcagagcc agtgttc                                   27
333 <210> SEQ ID NO: 6
334 <211> LENGTH: 24
335 <212> TYPE: DNA
336 <213> ORGANISM: Artificial Sequence
338 <220> FEATURE:
339 <223> OTHER INFORMATION: Primer for site-directed mutagenesis
341 <400> SEQUENCE: 6
342 gggggatccg gagcccactc tgca                                      24
345 <210> SEQ ID NO: 7
346 <211> LENGTH: 18
347 <212> TYPE: DNA
348 <213> ORGANISM: Artificial Sequence;
350 <220> FEATURE:
```

RAW SEQUENCE LISTING   DATE: 12/16/2005
PATENT APPLICATION: US/10/559,639   TIME: 15:46:54

Input Set : D:\Sequence_Listings_16033US_ST25_txt.TXT
Output Set: N:\CRF4\12162005\J559639.raw

```
351 <223> OTHER INFORMATION: Mega-primer to introduce mutation D52E
353 <400> SEQUENCE: 7
354 cgtggaaggg cagatcct                                              18
357 <210> SEQ ID NO: 8
358 <211> LENGTH: 19
359 <212> TYPE: DNA
360 <213> ORGANISM: Artificial Sequence
362 <220> FEATURE:
363 <223> OTHER INFORMATION: Mega-primer to introduce mutation D238E
365 <400> SEQUENCE: 8
366 ccagggaagt agaggcgca                                             19
369 <210> SEQ ID NO: 9
370 <211> LENGTH: 41
371 <212> TYPE: DNA
372 <213> ORGANISM: Artificial Sequence
374 <220> FEATURE:
375 <223> OTHER INFORMATION: Primer to construct cleavage fragment
377 <400> SEQUENCE: 9
378 ggggaattca gtgttccctc catggggcag atcctgggcc a                    41
381 <210> SEQ ID NO: 10
382 <211> LENGTH: 26
383 <212> TYPE: DNA
384 <213> ORGANISM: Artificial Sequence
386 <220> FEATURE:
387 <223> OTHER INFORMATION: Livin-Exp-F
389 <400> SEQUENCE: 10
390 tgttggatcc atgggaccta aagaca                                     26
393 <210> SEQ ID NO: 11
394 <211> LENGTH: 27
395 <212> TYPE: DNA
396 <213> ORGANISM: Artificial Sequence
398 <220> FEATURE:
399 <223> OTHER INFORMATION: Livin-Exp-R
401 <400> SEQUENCE: 11
402 ggcaaagctt ctaggacagg aaggtgc                                    27
```

Handwritten annotation: Invalid Respous. What is the Source of Genetic Material? Pls see Item #11 on Error Summary Sheet.

VERIFICATION SUMMARY   DATE: 12/16/2005
PATENT APPLICATION: **US/10/559,639**   TIME: 15:46:55

Input Set : **D:\Sequence_Listings_16033US_ST25_txt.TXT**
Output Set: **N:\CRF4\12162005\J559639.raw**

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date